



An Energy Efficiency Workshop & Exposition  
Palm Springs, California

## ***GSA in Atlanta***

### **Getting and Keeping Results with an ESPC Project**



## ***GSA Atlanta ESPC Project***

- Energy Savings Performance Contract
- Customer -- GSA, Tim Wisner
- Contractor -- NORESKO, Paul Pimentel
- Chiller Plants -- 3,000 and 2,400 tons
- Lights, Fan/Pump VFD & Ventilation
- Promised \$870,000 in Annual Savings
- Completed Construction May 2000



## *ESPC*

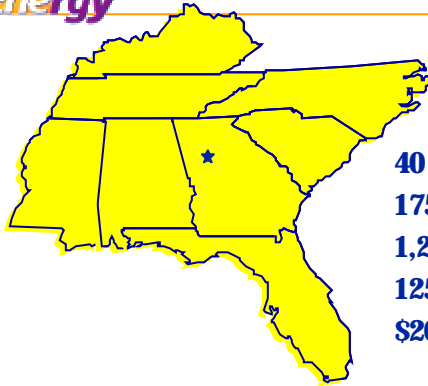
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- Energy Savings Performance Contract (ESPC)

A contracting method whereby the contractor incurs the cost of implementing an energy savings project in exchange for a share of any direct energy cost savings



### *Our Regional Stats*



**40 million square feet**  
**175 building**  
**1,200 leases**  
**125,000 tenants**  
**\$20 million budget**



### *We are Just Starting*



Gulfport, MS

**Financing energy  
projects since 1996**  
**35 buildings**  
**Approx. \$19 million  
implementation cost**



## *GSA Atlanta ESPC Project*

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- Our Story Begins at the End
- Commissioning and Functional Performance
- Measurement & Verification (M&V)
- Operations and Maintenance (O&M)
- Preservation of Out-Year Savings
- Questions



## *GSA Atlanta -- Commissioning*

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- Everything Turns the Right Way
- The Parts Work Together to Achieve the Design Intent Under All Conditions
- The New System Delivers the “Goods”
- Sub-Contractors, Vendors, Engineer, Operator, Commissioning Agent
- Set Up ▸ Test ▸ Debug ▸ Document



### *GSA Atlanta -- Commissioning*

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- RBR Chillers, for Example
- Drives, Chillers & Sensors Checked Out
- Two Control Systems to Integrate
- Chiller Capacity & Sequencing Control
- Pump Speed & Hydrodynamics
- Cooling Tower Flow Balance



## *GSA Atlanta -- M&V*

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- FEMP Guidelines
- Can the ECM Perform as Designed?
- Can It Generate the Promised Savings?
- What is the *Baseline* Energy Use?
- The *Post-Implementation* Energy Use?
- Reconcile Actual to Promised Savings



## *GSA Atlanta -- M&V Plan*

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- Defines Baseline and Post Energy Use
- Identifies Significant Savings Variables
- Assigns Savings Risk
- Defines What and How We Measure
- Prescribes Periodic Re-Verification
- Defines Reports



## *GSA Atlanta -- M&V Cost/Benefit*

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- O&M Savings Agreed To
- M&V Target = 5% Savings = \$25,000
- Chillers & Lights use most -- \$21,500
- VFD Target at \$2,700 has room
- OA Target at \$700 not enough but  
Other Benefits



## *GSA Atlanta -- M&V Results*

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### **ANNUAL SAVINGS**

	<u>Proposed</u>	<u>Verified</u>
kW-Mo	25,000	29,400
MWh	10,000	11,900
Energy Cost	\$500,000	<b>\$589,000</b>
O&M Cost	\$370,000	\$370,000



## *GSA Atlanta -- O&M*

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### **Operation & Maintenance Priorities**

	<u>GSA</u>	<u>NORESCO</u>
Happy Tenants	1	3
Control Expense	2	4
Preserve Capital	3	2
Long Term Savings	4	1



## *GSA Atlanta -- Preservation*

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- Renovations and Staff Change
- Keeping Track
- Preserving Savings
- Continuous Improvement





## *GSA Atlanta -- Questions*

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